

Line segment formed by
the endpoints $(-2, -5)$ and $(8, 12)$

- ① Find the point that bisects the segment
- ② Find the points that trisect the segment
- ③ Find the points that makes the segment into 4 equal part.

44.)

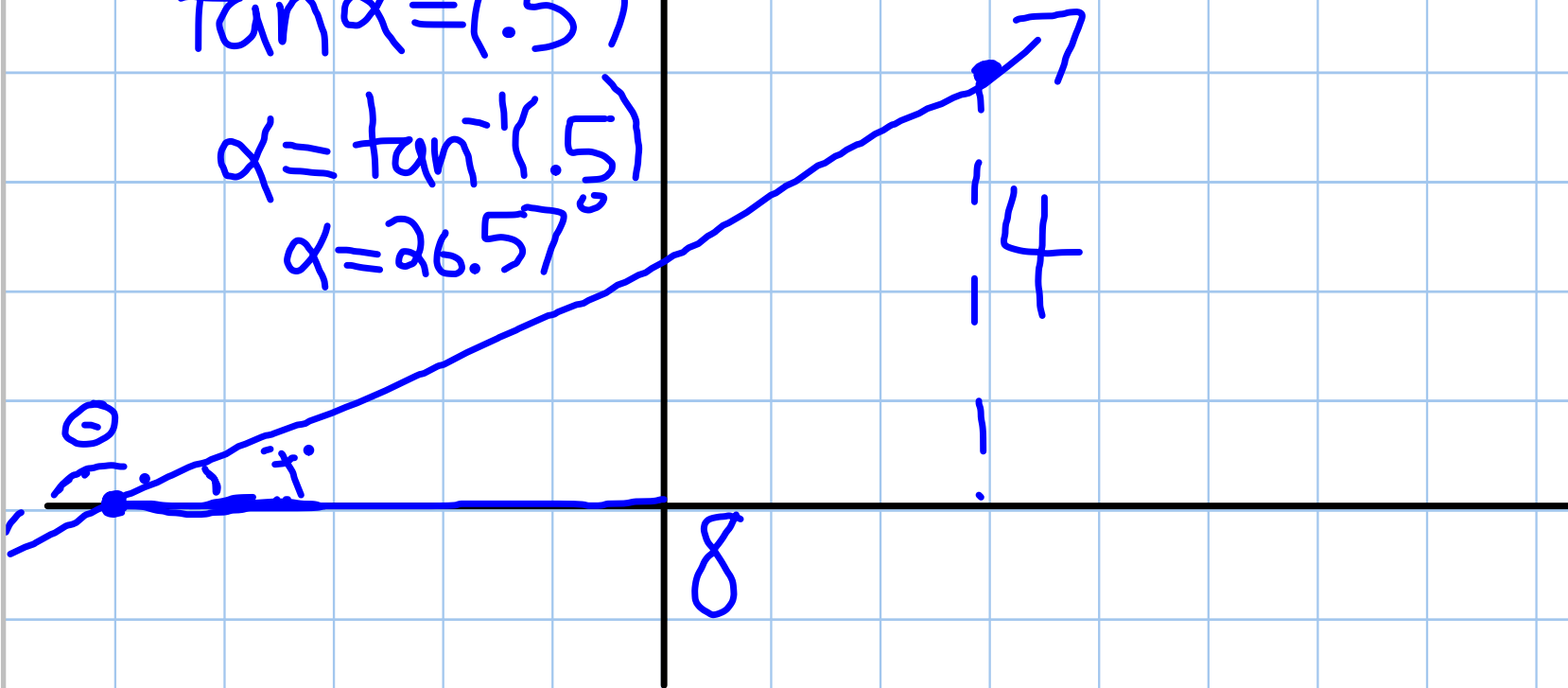
$$\tan \alpha = 4/8$$

$$\tan \alpha = (.5)$$

$$\alpha = \tan^{-1}(.5)$$

$$\alpha = 26.57^\circ$$

$$180 - 26.57$$
$$\theta = 153.43^\circ$$



(45)

$$\tan 45^\circ = \frac{1 - m_2}{1 + (1)(m_2)}$$

$$1 + m_2 = 1 - m_2$$

$$1 = 1 - 2m_2$$

$$0 = m_2$$

53. $x = 4.4$

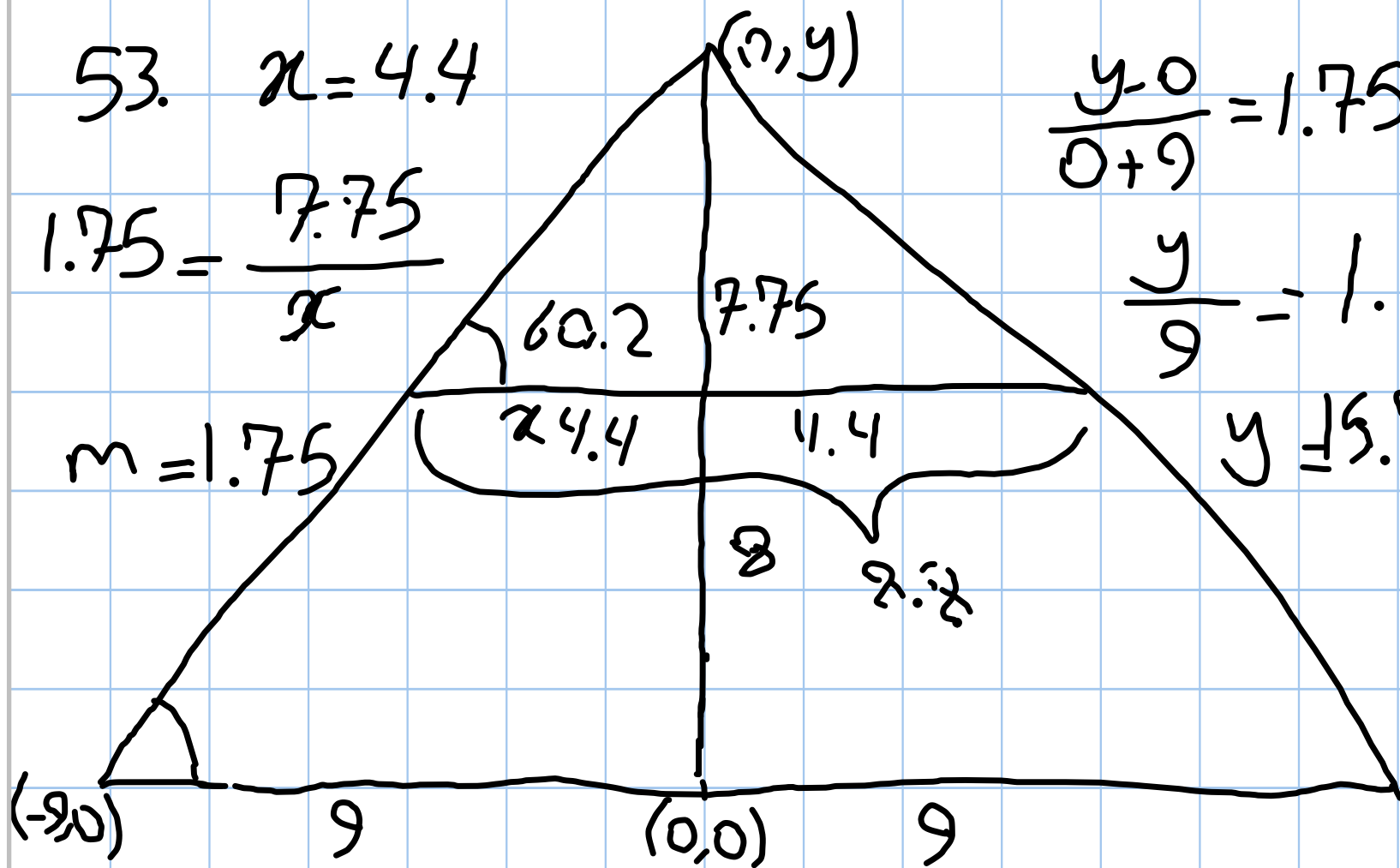
$$1.75 = \frac{7.75}{x}$$

$$m = 1.75$$

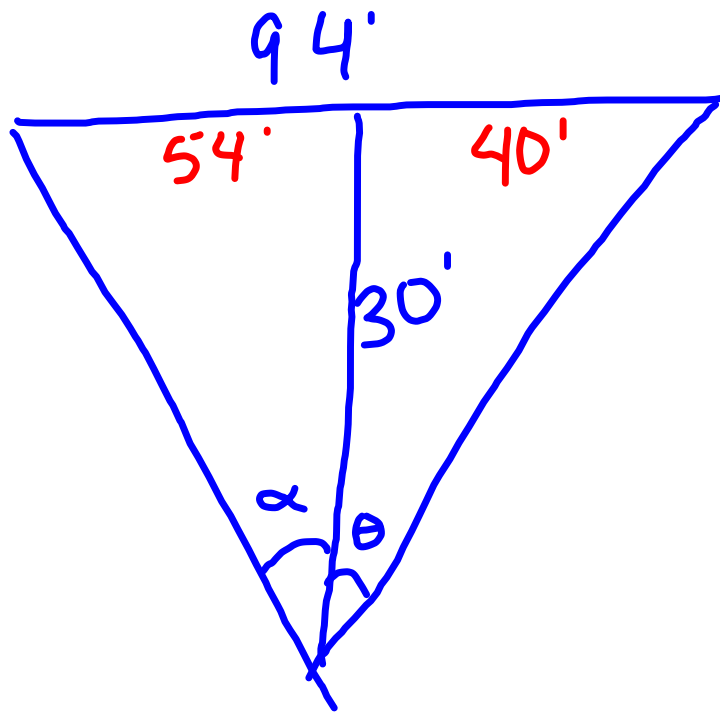
$$\frac{y-0}{0+9} = 1.75$$

$$\frac{y}{9} = 1.75$$

$$y = 15.75$$



54



$$\tan^{-1} \frac{40}{30}$$

$$\theta = 53.1^\circ \quad 114^\circ$$

$$\tan^{-1} \frac{54}{30}$$

$$\alpha = 60.9^\circ$$